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REPORT

COAL AREA

AT BRIDGEPORT, IN THE COUNTY OF CAPE BRETON.

(NO. 59 IN MINING OFFICES)

BY W. A. HENDRY, DEPUTY COMMISSIONER CROWN LANDS.

(LATE GOVERNMENT INSPECTOR OF MINES.)

HALIFAX:

PRINTED BY WILLIAM MACNAE, 11 PRINCE STREET.

1872.

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622.53  
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# REPORT

ON

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## REPORT.

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*Department of Crown Lands,  
Halifax, Nova Scotia, Dec. 2, 1872.*

To ROBERT L. WEATHERBE, Esq.

SIR:—I beg to submit the following statement relative to your Coal property at Bridgeport, in the Island of Cape Breton.

The country lying South and East of Sydney Harbor and North of Cow Bay, in which the area in question is situated, is regarded as the richest Coal region in North America.

After having for some years studied the geology of Nova Scotia, I spent three seasons, while connected with the Government department of Mines, examining this Coal basin in company with Professors Lyman and Lesley, two of the most eminent Coal geologists in America. These gentlemen, as well in published reports as in conversation with me, have pronounced this region as excelling all others they had examined for evenness and regularity of the strata and the absence of faults and dislocations. The Coal is of the finest character and its steam raising, gas making, manufacturing and domestic qualities have been established by careful analysis, and by the practical results of the numerous extensive collieries now in full operation.

The dip of the strata is at an angle of from one in six to one in ten; and a Coal seam when once entered may be worked to a great extent without any material addition to the cost of raising; nor (so well is the geology of the district understood) need there be any doubt about the most favorable point to make an opening.

An important consideration touching this district is its geographical position. It fronts on the Atlantic ocean, and is flanked

on the one side by Sydney Harbor, and on the other by Louisburg Harbor.

Describing the former of these ports, with which it is connected by two lines of Railway, Admiral Bayfield, whose invaluable charts and surveys are well known, says it is "one of the finest ports in the world, equally easy of access and egress, and capable of containing any number of the largest ships in perfect safety." The harbor of Louisburg, to which a railroad will soon be in course of construction—the Glasgow and Cape Breton Coal and Railway Company having increased their capital from £100,000 Stg. to £200,000 Stg. to extend their road there—is accessible at all seasons, and is mentioned in very favorable terms, as well by Admiral Bayfield, as by Commodore Powell.

This Coal field lies within sight of the track of the lines of Steamers which carry on the commerce between the country lying West of the Gulf of St. Lawrence and the Continent of Europe, and is within seventy-five miles of the course followed by the Steamers plying between Northern Europe and North America, and will probably supply Coal for all these lines, and eventually become one of the greatest coaling depots in the world.

Your Coal area, which is known on the map in the Government Office of Mines as number 59, is situated in the most favorable position in this Basin for convenience and cheapness of mining and transportation. It contains six hundred and forty acres.

Professor Dawson, President of McGill College at Montreal, in his celebrated work on Acadian Geology, page 416, describes ten distinct workable Coal Seams actually measured, underlying your property, making in all thirty-eight feet in vertical thickness—or upwards of thirty-five millions of tons of coal. In this Province it has not been customary to estimate the probable value of Coal property lower than 20c per ton on the total quantity known to be contained in the area, which is considerably lower than the rule applied in Pennsylvania, the chief Coal dis-

trict of the United States. Applying this rule to the property under consideration, the result gives seven millions of dollars.

Mr. Dawson, a cautious and reliable authority, argumentatively mentions in the work already cited, pages 413 and 418, the probability of other undeveloped Seams in the strata which underlie this area.

Concerning five of these seams discussed in Dawson's work, I am able to speak from personal observation. The two upper seams crop on your property, and do not underlie the whole of it.

*First*.—The "McPhail" or "Ross Bed" is a noble seam of Coal  $5\frac{1}{2}$  to 6 feet in thickness, solid from floor to roof, free from layers of slate or splint, produces a good gas coal, and is generally free from sulphur. It is considered superior for steam raising, for domestic and manufacturing purposes. It underlies about two hundred acres of your area, and if mined by the long wall system will yield in the mine 1,774,000 cubic yards.

*Second*.—The "Long Beach" seam is  $3\frac{1}{2}$  feet in thickness, is similar in quality to the McPhail bed, and is a bright compact coal. This also crops on your area and underlies three hundred and sixty acres of it, and will produce 1,874,000 cubic yards.

*Third*.—This seam is nearly 3 feet in thickness. It is a very pure and compact coal, and underlies the whole of your area six hundred and forty acres, and will yield by the Long wall system of mining—at least 2,750,000 cubic yards.

*Fourth*.—The Gardner seam is considered very valuable as a steam coal. It underlies the whole area, and varies from 4 to 5 feet 6 inches in thickness, and will yield at least 5,000,000 cubic yards.

*Fifth*.—The Tracey bed is 4 ft.  $1\frac{1}{2}$  in. in thickness, and will yield about 5,000,000 cubic yards. This will give a total in tons or cubic yards of upwards of 17,000,000 in your property.

The coal of the McPhail and Long Beach seams may be mined through a slope, at a small outlay of capital. For opening and equipping the former of these, I have made a careful estimate to

accompany this report, which, with slight additions and modifications, may be applied to your other beds. According to this estimate, \$53,570.00 will suffice to put the mine in thorough working order. The coal of the Gardner seam just referred to, rests on a thin bed of clay, ten inches thick, which in mining, is of great advantage, as the holing can be done in the clay cheaper than in coal, and thus a considerable amount of coal is saved. The floor under the clay is smooth rock.

A pit on your property 900 feet, would reach the dip of the Lorway bed, which is 6 feet in thickness (through which, in fact, all the before-mentioned seams could be worked) and at the foot a level could be driven about two miles in length, which would most advantageously command this entire bed underlying your area.

One feature of this property worthy of mention is its elevation above the sea, and I estimate that it contains at least two and a-half to three million tons of coal above the tide-level.

It should be mentioned that this district is rich in kidney iron ore. I measured the bed alongside of and parallel with the Tracey seam and found it over six feet in thickness, and it will probably yield from twenty to twenty-five per cent. of bloom iron, and several other beds of workable thickness of the same ore are interstratified through these coal measures. The proposed transportation to this district of specular and magnetic iron ore—too rich and refractory to be worked alone—from other districts, accessible by water and destitute of fuel, renders the kidney ore on this property of increasing economic value.

The shipment of your coal will probably be chiefly at present at Sydney harbor, nine miles westerly from the centre of your area. The Railway owned and worked by the International Coal and Railway Company, which intersects your area, is now in active operation, and the company have carried over it from their own mines this summer, 11,000 tons, and as I am informed, that company have entered into an agreement with the proprietors of the Gardner Mine, immediately adjoining yours on the

West, to carry their coal, and deliver it on board ship at their own wharf in Sydney Harbor at 1½ cents per ton per mile. The Cape Breton and Glasgow Coal and Railway Company, whose valuable mine adjoins yours on the South East, known as the Reserve area, have also a Railway completed to Sydney Harbor, which passes within a few hundred yards of your property, to a large and commodious wharf. The same company are engaged in preparations to extend their line of Railway to Louisburg harbor, where coal may be shipped at any season of the year, as mentioned already.

W. A HENDRY,  
Dy. Comm'r. of Crown Lands.

*Estimate of expense of opening the McRury or Ross Seam,  
on the Weatherbe Area, and equipping the Mine.*

Driving pair of Slopes to the deep 300 yards, att \$20 per yard.....	\$12000 00
Engine and Boilers.....	5600 00
Building and foundation for do.....	1100 00
Equipping Slope and erecting bank-head.....	1000 00
Engine House.....	350 00
Rails for Slopes, 20 tons, at \$60 per ton.....	1200 00
Bridge rail underground, 20 tons, at \$60 per ton.....	1200 00
80 coal tubs, at \$15. <del>18</del> .....	900 00
Coal picks, shovels, wedges, hammers, drills, &c. ....	1000 00
Wire ropes and carrying pulleys.....	1050 00
Blacksmith's shop, 3 fires.....	450 00
Carpenter's shop.....	300 00
Store house and office.....	750 00
Barn.....	500 00
Coal yard, levelling, fencing and grubbing.....	800 00
Siding or branch from main line of railroad to coal bank, including points and switches, say $\frac{1}{4}$ mile*.....	3000 00
Steam Pump.....	800 00
Putting down pumps, etc., and making lodg- ment for water.....	500 00
Opening mine, driving levels and headings†.....	5000 00
Miners' houses, (4 dwellings in each block, at \$900, or 2 dwellings in each block at \$600,) say about 20 blocks,.....	12000 00
Land 20 acres, say,.....	1000 00
Horses, Harness and Carts,.....	700 00
Manager's House,.....	2000 00
Tools for Blacksmith and Carpenter .....	300 00
<b>Total.....</b>	<b>\$53570 00</b>

\* Coal Cars will be found by the Railroad Company which will carry Coal 9 miles to the wharf at Sydney harbor at 1½ cents per ton per mile.

† On an average every dollar spent in the above openings will produce one ton of Coal, so that in reality this work may be said to pay for itself, and the item may be deducted.

Coal Group  
(No. 22 Dawson's section)  
McRury or Ross seam

{ 1

Fr. In.

5 6

100.0

Iron balls  
Stand Stone

M E A

Thickness  
uncertain.

461.0

MEASURES NOT DESCRIBED.

Coal Group 10

Coal Group 11  
(Tracy or Parrot seam)

4 2 1800 2  
2764.1

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r. Dawson in his "Acadian

J. A. HENDRY,  
Deputy Commissioner.

carry Coal  
produce one  
itself, and

Coal Group  
(No. 22 Dawson's section)  
McMurtry or Ross seam

Ft. In.  
**5 6**

100.0

Iron balls.  
Sand Stone.  
Shale.

**3 0**

Fire Clay  
Sand Stone.  
Shale.

Coal Group 2

**1**

100.0

Coal Group 3

**2 8**

50.0

Shale.

**4 4**

Sand Stone  
and Clay Slate.

Coal Group 4

100.0

**3 8**

Coal Shale.

Coal Group 5

50.0

Shale.

**2 3**

Hard Sand  
Shale.  
Sand Stone.

Coal Group 6

105.0

Shale.

**1 6**

Sand Stone  
and Clay Slate.

Coal Group 7

103.0

**6 0**

Coal Group 8  
(Lorway seam)

MEASURES  
NOT DESCRIBED.

330.0

**5 0**  
963 11

Iron balls.

963 11

Coal Group 9  
Gardner seam

Total thickness of  
coal at the depth of  
963 ft. 11 inches  
33 ft. 11 in.

Section showing  
Area (No. 59 Minin-  
Geology", recently  
Crown Land Of  
Dec.

4.2 1800.2  
2764.1

Coal Group 11  
(Tracy or Parrot seam) { 11

MEASURES NOT DESCRIBED.

Thickness  
uncertain.

460.0

Coal Group 10

MEASURES NOT DESCRIBED.

1336.0

MEASURES NOT DESCRIBED.

Section shewing the Coal Seams underlying the Weatherbe  
ea (No. 59 Mining Office) as given by Dr. Dawson in his "Acadian  
ology", recently published.

Crown Land Office,  
Dec. 2, 1872. {

W. A. HENDRY,  
Deputy Commissioner.